

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Lu et al.

Attorney Docket No.: CISC251/121248

Application No.: 10/058,722

Examiner: Nguyen, Thuong

Filed: January 28, 2002

Group: 2155

Title: APPARATUS AND METHODS FOR
RESTORING TRAFFIC DURING FAILOVER IN
A CABLE HEAD END

Confirmation No.: 7898

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Signed: /Chereyce Brown/
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant requests review of the final rejection in the above-identified application.

This request is being filed with a Notice of Appeal.

The review is requested for the reasons stated on the attached sheets.

Remarks begin on page 2 of this paper.

REMARKS

REJECTION OF CLAIMS UNDER 35 USC §103

In the Office Action, the Examiner rejected claims 1-6, 22-24, 26-27, 32-35, 37 and 39 under 35 USC §103 as being unpatentable over Cloonan Patent No. 2002/0066110 A1, ('Cloonan' hereinafter) in view of Ansley, Patent No. 7,072,365 B1, ('Ansley' hereinafter).

Each of the pending claims enables cable modems to be prioritized for purposes of polling the cable modems. In other words, the cable modems are polled in an order indicated by the prioritized cable modems. Polling is used to establish communication between a CMTS and a cable modem. The polling process may also be referred to as "ranging."

Cloonan discloses a cable modem termination system (CMTS), which reduces the time required to switch over traffic from a failed circuit to a back up circuit. FIG. 1 shows a single CMTS. As shown and described with reference to FIG. 2, the CMTS includes a number of cable interface cards. If a fault is discovered on one of the active cable interface cards, then the protection switch can re-route the traffic using the spare cable interface card. See par. [0028].

Cloonan discloses a single CMTS. As set forth above, Cloonan relates to the failure of a circuit within a CMTS and the copying of parameters from an active circuit into a spare circuit. Even if the Cloonan is interpreted to include a backup CMTS (e.g., spare circuit) and an active CMTS (e.g., active circuit), there is no indication that the parameters that are copied include subscriber information, as claimed. While paragraphs 8-11 of Cloonan do discuss Quality of Service (QoS) and service level agreements (SLAs) with respect to data packets, these paragraphs fail to disclose or suggest receiving by a backup cable modem termination system subscriber information including subscriber identifiers associated with one or more cable modems from an active cable modem termination system. Moreover, while it is well known that data packets may be prioritized differently, there is nothing in Cloonan to suggest polling cable

modems in a particular order in order to establish communication with cable modems in a particular order. Cloonan is not concerned with prioritizing within the control plane, or more specifically, with the order in which communication between one or more cable modems and a backup cable modem termination system is established. In fact, Cloonan's techniques "eliminate the re-ranging" process that is improved by the claimed invention. See para. 0014.

The Examiner admits that Cloonan fails to teach "wherein receiving, prioritizing and polling by the backup cable modem termination system." The Examiner seeks to cure the deficiencies of Cloonan with Ansley.

Ansley discloses a system and method for multiplexing broadband signals. See Title. The cable modem termination system may have receivers tuned to individual slots allocated to data feeds, such as Internet, video, telephony or other sources, and route those sources over the Internet. Upon a failure condition within any given receiver or other component, a backup cable modem termination system, connected to the same common bus as the main or active system, may be rapidly activated by having backup receivers contained in that unit tuned to appropriate frequencies to pick up the signals within the corresponding band. See Abstract.

The Examiner cites FIG. 5, col. 1, lines 38-52; col. 2, lines 38-50; col. 4, lines 5-68 of Ansley. Col. 1, lines 38-52 of Ansley discloses that a switch transfers incoming signals to a backup CMTS. In addition, col. 2, lines 38-50 of Ansley discloses a frequency selectable CMTS that may be backed up by another frequency selectable CMTS acting as a backup unit, connected to the same bus as the main CMTS to the multiplexer module. Upon failure or malfunction of any individual receiver or of the entire active CMTS, "failover may therefore be accomplished on a very rapid basis by tuning the backup frequency selectable CMTS to appropriate frequency channels driving on the bus to which both receivers are mutually connected."

In summary, the backup cable modem termination system of Ansley is merely connected to the same common bus as the active CMTS. Thus, Ansley neither discloses nor suggests a backup CMTS receiving subscriber information from an active CMTS. Moreover, Ansley fails to disclose or suggest prioritizing cable modems in any manner, and therefore fails to disclose or suggest prioritizing cable modems by a backup CMTS, as claimed. In addition, Ansley fails to disclose or suggest the polling of cable modems in the prioritized order (by a backup CMTS or otherwise). Therefore, Applicant respectfully asserts that Ansley fails to cure the deficiencies of Cloonan.

It is important to note that the claimed invention provides numerous advantages over the cited art. More specifically, the Background section of Applicant's specification addresses the problems associated with time outs when a CMTS fails, particularly when real-time traffic such as voice or video data is being transmitted. The cited art, separately or in combination, fails to disclose or suggest this problem. Similarly, the cited art, separately or in combination fails to disclose or suggest a solution to this problem (e.g., by prioritizing the cable modems and polling the cable modems in the prioritized order).

Neither of the cited references, separately or in combination, discloses or suggests communication between an active CMTS and a backup CMTS in the manner claimed. Moreover, neither of the cited references, separately or in combination, discloses or suggests prioritizing cable modems by a backup CMTS and polling the prioritized cable modems by a backup CMTS in the prioritized order such that communication between the one or more cable modems and the backup cable modem termination system is established in the order indicated by the prioritized cable modems. In view of the above, the combination of the cited references would fail to operate as claimed. Even if the references were combined, this would merely result in the prioritization of data traffic by a backup CMTS. The combination of the cited references would not change the order in which communication between various cable modems and a

backup cable modem termination system is established in the control plane. As a result, the effects of timeouts as a result of a failed CMTS would not be reduced, as achieved by the claimed invention. With respect to the various additional references cited with respect to various dependent claims, Applicant respectfully asserts that the remaining references fail to cure the deficiencies of the primary references set forth above. Accordingly, Applicant respectfully asserts that the claims are patentable under 35 USC 103.

REJECTION OF CLAIMS UNDER 41 UNDER 35 USC §112, SECOND PARAGRAPH

The Examiner asserts that claim 41 is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. “It’s unclear to the examiner what type of data traffic to be transmitted?” Applicant asserts that the claim language “the subscriber information indicates a type of data traffic to be transmitted in association with each of the cable modems” is clear. Moreover, the phrase “type of data traffic” is clearly defined within the specification. For instance, the specification states: “the subscriber information may include one or more secondary subscriber identifiers, which may be used to indicate the type of traffic being transmitted. For instance, the secondary subscriber identifier is typically used to identify real-time data traffic such as voice or video data.” Thus, it is clear that the type of data traffic may include a variety of types of data traffic such as voice or video data. Applicant need not specifically identify each possible type of data traffic in the claim. Accordingly, Applicant respectfully requests that the rejection of claim 41 under 35 USC §112 be reversed.

Respectfully submitted,
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